CLAIMS

1. A method for defining correction parameters used in transmitter linearization executed by a predistortion method, **characterized** in that the method comprises the following steps:

(a) taking a predefined number of samples from a signal coming out of said transmitter,

(b) categorizing the signal samples into classes,

(c) comparing the signal samples with corresponding ideal signal values and

(d) on the basis of said comparison, defining a correction parameter for each class.

2. A method as claimed in claim 1, **characterized** in that said categorization in step (b) is performed on the basis of the ideal signal corresponding to the signal sample, preferably on the basis of the amplitude of the ideal signal.

3. A method as claimed in claims 1 or 2, **characterized** in that said comparison in step (c) comprises the following steps:

comparing the normalized amplitude of each signal sample to the normalized amplitude of the corresponding signal fed into the transmitter and

defining the ratios of these amplitude values.

4. A method as claimed in claim 3, **characterized** in that said definition of a correction parameter for a certain class in step (d) comprises the following steps:

calculating the average of the ratios defined in step (c) and corresponding to the signal samples in the class in question and

defining the correction parameter on the basis of the calculated average.

5. A method as claimed in claim 1 or 2, **characterized** in that said comparison in step (c) comprises the following steps:

comparing the normalized amplitude and phase of each signal sample with the normalized amplitude and phase of the signal fed into the transmitter and corresponding to the sample respectively and

defining the ratios of the amplitude values and differences of the phase values.

6. A method as claimed in claim 5, **characterized** in that said definition of a correction parameter for a certain class in step (d) comprises the following steps:

calculating the average of the ratios of the amplitude values defined in step (c) and corresponding to the signal samples in the class in question and the average of the phase value differences and

defining the correction parameter on the basis of the calculated averages.

7. A method as claimed in claim 1 or 2, **characterized** in that said comparison in step (c) comprises the following steps:

calculating the average of the normalized amplitudes of the signal samples in each class and the average of the normalized amplitudes of the signals fed into the transmitter and corresponding to the samples in each class and

comparing said amplitude averages and

defining the ratios of the amplitude value averages for each class.

8. A method as claimed in claim 7, **characterized** in that said definition of a correction parameter in step (d) for a certain class is done on the basis of the ratio of the averages defined for the class in question.

9. A method as claimed in claim 1 or 2, **characterized** in that said comparison in step (c) comprises the following steps:

calculating the average of the normalized amplitudes of the signal samples in each class and the average of the normalized amplitudes of the signals fed into the transmitter and corresponding to the samples in each class,

calculating the average of the phases of the signal samples in each class and the average of the phases of the signals fed into the transmitter and corresponding to the samples in each class,

comparing said amplitude averages,

defining the ratios of the amplitude value averages for each class,

comparing said phase averages and

defining the differences of the phase value averages for each class.

10. A method as claimed in claim 9, **characterized** in that said definition of a correction parameter in step (d) for a certain class is done on the basis of the ratios of the amplitude value averages and the difference of the phase value averages defined for the class in question.

11. A method as claimed in claims 4, 6, 8 or 10, **characterized** in that said definition of a correction parameter in step (d) for a certain class, if the class in question has no signal samples, comprises the following step:

defining as the correction parameter of the class in question the correction parameter of another class, preferably the correction parameter of the closest class, or

defining the correction parameter of the class in question by interpolation from the correction parameters of the closest classes containing samples.

12. A transmitter comprising:

sampling means (9) for sampling the signal (OUT) coming out of the transmitter,

a predistorter (3A, 3B, 4) for predistorting the signal to be sent (I_IN, Q_IN) to compensate the nonlinearity of the transmitter,

the transmitter being **characterized** in that it also comprises:

categorization means (17) for categorizing into classes signal samples (FB) taken from the signal (OUT) coming out of the transmitter,

comparison means (17) for comparing the signal samples (FB) with the corresponding ideal signal values (REF),

definition means (17), responsive to said comparison means (17), for defining amplitude and preferably phase correction parameters for each class in question, whereby the predistorter is arranged to use said correction parameters when predistorting the signal being transmitted.

13. A transmitter as claimed in claim 12, **characterized** in that said definition means (17) are, if it is not possible to define a correction parameter for a class, adapted to take a corresponding correction parameter from another class and to define it as the correction parameter for the required class.

14. A transmitter as claimed in claim 12 or 13, **characterized** in that said categorization means (17) are adapted to categorize said sampled signal samples (FB) on the basis of the ideal signal value (REF) corresponding to each signal sample.